Technology Deployment Initiatives and Partnership Program
Request for Funding
FY 2000

Project Title: Innovative uses of Global Positioning Systems

Problem Statement: There are many cases where data elements used in the design phase need to be inventoried, studied or evaluated. Such data elements include, but are not limited to, species identification along a project for environmental clearance or mitigation, locating features such as cultural objects, locating design elements such as bore holes, etc. To be able to locate these data elements requires a survey crew to establish control points in the area. Alternative to this survey work is to use Global Positioning Systems to establish the location with accuracy reasonable for the work.

Proposal: (including expected output and implementation) Evaluate the use of Global Positioning Systems, at various accuracies, first to locate Environmental features, followed by geotech and design as appropriate. It is anticipated that a Global Positioning System consisting of at least two back pack portable units can be used to locate a collection of environmental data for a specific project. For the same project, a drill crew, geotech engineer, and designer can locate other specific features necessary for design following the example of the environmental engineer. The Global Positioning System data location will use a post processing technique to attain the desired accuracy. It is expected that the type of data, the degree of accuracy and the efficiency of such data collection will be documented. Based on the results of this evaluation, a decision about implementing this technology to locate data elements will be showcased for adoption as standard practice.

Benefits: It is anticipated that time and money will be saved in the location and collection of some design data elements that can use this technology. Efficiency should increase in the collection of data by the specialist responsible for each element by reducing the amount of survey crew time and decreasing the amount of surveying to establish data areas. Locating data sites for follow up analysis should be easier and less costly.

Estimated Resources/Cost: $60,000

Duration: Two years during the preliminary design phase from project scoping through environmental clearance. FY 2000 and 2001 are the target years.

Suggested Organization/Method: Christy Darden, Environmental Engineer in the Alaska/ Washington Design Team will be the initial Champion to select the case study project, identify the initial data elements to use the Global Positioning System, and showcase the technology to the follow on champions in the Geotech Team and the Designer, to be determined later. Other showcases of the technology may be presented to the other Design Teams and the other Divisions as may be appropriate following completion of this evaluation.

Submitter:

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Champion:

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